

|   | Document ID  | Issue Date | Pages | Title   | Current OR | Current XRef                                | Inventor                  |
|---|--------------|------------|-------|---|------------|---|---------------------------|
| 1 | US 6103555 A | 20000815   | 5     | Method of improving the reliability of low-voltage programmable antifuse  | 438/131    | 438/600;<br>438/762;<br>438/769;<br>438/956 | Choi, Jeong Yeol          |
| 2 | US 5196724 A | 19930323   | 11    | Programmable interconnect structures and programmable integrated circuits | 257/530    | 257/50;<br>257/751;<br>257/764              | Gordon, Kathryn E. et al. |

*from Spec*

|    | Document ID   | Issue Date | Pages | Title  | Current OR | Current XRef   | Inventor                    |
|----|---------------|------------|-------|--|------------|--|-----------------------------|
| 1  | US 5391518 A  | 19950221   | 11    | Method of making a field programmable read only memory (ROM) cell using an amorphous silicon fuse with buried contact polysilicon and metal electrodes | 438/281    | 148/DIG.1;<br>438/132;<br>438/601                            | Bhushan, Bharat             |
| 2  | US 5328865 A  | 19940712   | 9     | Method for making cusp-free anti-fuse structures   | 438/600    | 438/627  | Boardman, William J. et al. |
| 3  | US 5290734 A  | 19940301   | 11    | Method for making anti-fuse structures   | 438/600    | 148/DIG.1;<br>148/DIG.55;<br>257/530;<br>438/639;<br>438/647 | Boardman, William J. et al. |
| 4  | US 5210598 A  | 19930511   | 8     | Semiconductor element having a resistance state transition region of two-layer structure   | 257/530    |  | Nakazaki, Yasunori et al.   |
| 5  | US 6249010 B1 | 20010619   | 11    | Dielectric-based anti-fuse cell with polysilicon contact plug and method for its manufacture   | 257/50     | 257/530  | Bergemont, Albert et al.    |
| 6  | US 6242335 B1 | 20010605   | 10    | Method for fabricating isolated anti-fuse structure  | 438/600    | 438/131;<br>438/467  | Sher, Joseph C. et al.      |
| 7  | US RE36893 E  | 20001003   | 9     | Anti-fuse structure for reducing contamination of the anti-fuse material   | 257/530    | 257/50;<br>257/751;<br>257/752;<br>257/764                   | Pramanik, Dipankar et al.   |
| 8  | US 5789795 A  | 19980804   | 10    | Methods and apparatus for fabricating anti-fuse devices  | 257/530    | 438/131  | Sanchez, Ivan et al.        |
| 9  | US 5521423 A  | 19960528   | 18    | Dielectric structure for anti-fuse programming element   | 257/530    | 257/209;<br>257/50;<br>257/529                               | Shinriki, Hiroshi et al.    |
| 10 | US 5412244 A  | 19950502   | 15    | Electrically-programmable low-impedance anti-fuse element  | 257/530    | 257/50;<br>257/607   | Hamdy, Esmat Z. et al.      |
| 11 | US 5365105 A  | 19941115   | 9     | Sidewall anti-fuse structure and method for making   | 257/530    | 257/390;<br>365/96   | Liu, David K. et al.        |
| 12 | US 5266829 A  | 19931130   | 13    | Electrically-programmable low-impedance anti-fuse element  | 257/530    |  | Hamdy, Esmat Z. et al.      |
| 13 | US 4943538 A  | 19900724   | 9     | Programmable low impedance anti-fuse element   | 438/215    | 438/333;<br>438/467;<br>438/600                              | Mohsen, Amr M. et al.       |
| 14 | US 4823181 A  | 19890418   | 11    | Programmable low impedance anti-fuse element   | 257/530    | 257/296;<br>257/640;<br>365/96                               | Mohsen, Amr M. et al.       |

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PLUS Search Results for S/N 09/682,628, Searched June 26, 2002 (Top 50)

|         |         |         |         |         |
|---------|---------|---------|---------|---------|
| 5903041 | 5774011 | 5978248 | 5434448 | 6124165 |
| 6156588 | 5789795 | 6016001 | 5493146 | RE36893 |
| 6240033 | 6061264 | 6021079 | 5521423 | 6140692 |
| 5793094 | 6096580 | 6233194 | 5572458 | 6159836 |
| 5210598 | 6174797 | 4823181 | 5573970 | 6242335 |
| 5416355 | 5278784 | 4899205 | 5625219 | 6249010 |
| 5290734 | 5365105 | 5266829 | 5625220 | 4876220 |
| 5328865 | 5427979 | 5331196 | 6060785 | 4881114 |
| 5391518 | 5565703 | 5391513 | 6096571 | 4943538 |
| 5672994 | 5742555 | 5412244 | 6124194 | 5365104 |

Most Frequently Occurring Classifications of Patents Returned  
From A Search of 09/682,628 on June 26, 2002

Combined Classifications

28 257/530  
14 438/600  
13 257/50  
10 365/96  
7 365/225.7  
7 438/131  
7 438/467  
6 257/529  
4 438/132  
3 148/DIG 55  
3 257/209  
3 365/103  
3 438/215  
2 148/DIG 1  
2 257/751  
2 257/752  
2 257/764  
2 327/525  
2 438/281  
2 438/601  
2 438/624

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- 28 257/530 (19 OR, 9 XR)  
Class 257 : ACTIVE SOLID-STATE DEVICES  
257/499 INTEGRATED CIRCUIT STRUCTURE WITH ELECTRICALLY  
ISOLATED COMPONENTS  
257/528 .Passive components in ICs  
257/529 ..Including programmable passive component  
(e.g., fuse)  
257/530 ...Anti-fuse
- 14 438/600 (8 OR, 6 XR)  
Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS  
  
438/584 COATING WITH ELECTRICALLY OR THERMALLY  
CONDUCTIVE MATERIAL  
438/597 .To form ohmic contact to semiconductive  
material  
438/598 ..Selectively interconnecting (e.g.,  
customization, wafer scale integration, etc.)  
438/600 ...Using structure alterable to conductive  
state (i.e., antifuse)
- 13 257/50 (1 OR, 12 XR)  
Class 257 : ACTIVE SOLID-STATE DEVICES  
257/49 NON-SINGLE CRYSTAL, OR RECRYSTALLIZED,  
SEMICONDUCTOR MATERIAL FORMS PART OF ACTIVE JUNCTION  
(INCLUDING FIELD-INDUCED ACTIVE JUNCTION)  
257/50 .Non-single crystal, or recrystallized, active  
junction adapted to be electrically shorted (e.g.,  
"anti-fuse" element)
- 10 365/96 (4 OR, 6 XR)  
Class 365 : STATIC INFORMATION STORAGE AND RETRIEVAL  
365/94 READ ONLY SYSTEMS (I.E.. SEMIPERMANENT)  
365/96 .Fusible
- 7 365/225.7 (4 OR, 3 XR)  
Class 365 : STATIC INFORMATION STORAGE AND RETRIEVAL  
365/189.01 READ/WRITE CIRCUIT  
365/225.7 .Having fuse element
- 7 438/131 (1 OR, 6 XR)  
Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS  
  
438/128 MAKING DEVICE ARRAY AND SELECTIVELY  
INTERCONNECTING  
438/131 .Using structure alterable to conductive state  
(i.e., antifuse)
- 7 438/467 (0 OR, 7 XR)  
Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS  
  
438/466 DIRECT APPLICATION OF ELECTRICAL CURRENT  
438/467 .To alter conductivity of fuse or antifuse  
element